

**Notice of Allowability**

Application No.

10/674,430

Examiner

TAN Q. NGUYEN

Applicant(s)

MITSUNAGA ET AL.

Art Unit

3661

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/21/2005.
2. ☒ The allowed claim(s) is/are 1 and 3-11 (now renumbered as 1-10).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
**TAN Q. NGUYEN**  
**PRIMARY EXAMINER**

### **EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE**

1. This communication is an Examiner's reasons for allowance in response to the Request for Continued Examination (RCE) filed on October 21, 2005, assigned serial 10/674,430 and titled "SENSOR UNIT".

2. The following is the Examiner's statement of reasons for the indication of allowable subject matter:

a. After carefully reviewing the application in light of the prior art of record, the amended claims and additional search of all the possible areas relevant to the present application, a set of related prior art references has been found, but those prior art references are not deemed strong to make the application unpatentable. Thus, it is found that the application is now in condition for allowance.

b. Although the prior art disclose several claimed limitations, none of the references teaches a sensor unit for mounting on a mobile unit which includes an antenna section for receiving a high frequency signal from an external position system, a sensor section including at least a gyro sensor for detecting an angular velocity of the mobile unit and an acceleration sensor for detecting an acceleration of the mobile unit, a combining circuit includes a first line through which the high frequency signal is sent, a second signal line through which a signal output from the sensor section is sent, and a node for generating a composite signal by combining the high frequency signal from the antenna section and the signal output from the sensor section such that the high frequency signal and signal occupy different frequency bandwidths and are output from said node simultaneously, wherein said node being a connection point of the first signal line and second signal line (claims 1 and 9). Also, neither references teaches a locating unit includes a dividing circuit for responsive to the composite signal sent from the

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sensor unit and dividing the composite signal into the high frequency signal and the digital modulated signal, a receiver for performing, in response to reception of the high frequency signal obtained through division by the division circuit, a predetermined process on the high frequency signal and calculating a current position of the mobile unit, a digital demodulator for demodulating the digital modulated signal obtained through division by the dividing circuit and reproducing the data unit, and a processor for deriving an azimuth angle and travel distance of the mobile unit from the angular velocity data and the acceleration data included in the data reproduced by the digital demodulator and calculating a current position of the mobile unit by using the azimuth angle and the traveled distance (claim 9).

c. The closest reference Bode et al. does not disclose the composite signal. It discloses an output compatible data 9 which either the signal from GPS, if available or the signal from the sensor section in the case when the GPS signal is not available.

d. Claims 1 and 3-11 are allowable over the prior art of record (now renumbered 1-10).

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Tan Nguyen, whose telephone number is (571) 272-6966. The examiner can normally be reached on Monday-Thursday from 5:30 AM-4:00 PM

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black, can be reached on (571) 272-6956.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

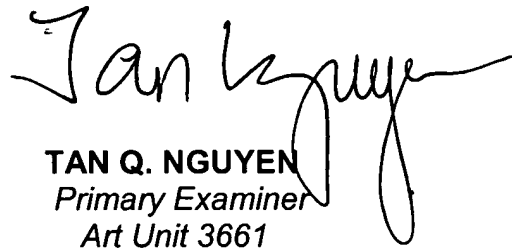
or faxed to the Central Fax: (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/tqn  
December 10, 2005

  
**TAN Q. NGUYEN**  
*Primary Examiner*  
*Art Unit 3661*